

IN THE CLAIMS:

- 1 1. (PREVIOUSLY PRESENTED) A method for a network device to claim ownership of
2 a disk in a network storage system comprising the steps of:
3 setting a first ownership attribute on the disk to a state of ownership by the net-
4 work device; and
5 setting a second ownership attribute on the disk to a state of ownership by the net-
6 work device.

- 1 2. (ORIGINAL) The method of claim 1, wherein one of the first ownership attribute and
2 the second ownership attribute further comprises a small computer system interface level
3 persistent reservation tag.

- 1 3. (ORIGINAL) The method of claim 1, wherein one of the first ownership attribute and
2 the second ownership attribute further comprises ownership information written on a pre-
3 determined area of the disk.

- 1 4. (ORIGINAL) The method of claim 3, wherein the ownership information further
2 comprises a serial number of the network device.

- 1 5. (ORIGINAL) The method of claim 1, wherein the network device comprises a file
2 server.

- 1 6. (ORIGINAL) A method of claiming ownership of a disk by a network device in a
- 2 network storage system comprising the steps of:
 - 3 writing ownership information to a predetermined area of the disk; and
 - 4 setting a small computer system interface level 3 persistent reservation tag to a
 - 5 state of network device ownership.
- 1 7. (ORIGINAL) The method of claim 6 wherein the ownership information further com-
2 prises a serial number of a network device.
- 1 8. (ORIGINAL) The method of claim 6, wherein the network device comprises a file
2 server.
- 1 9. (ORIGINAL) A network storage system comprising:
 - 2 a plurality of network devices;
 - 3 one or more switches, each network device connected to at least one of the one or
 - 4 more switch; and
 - 5 a plurality of disks having a first ownership attribute and a second ownership at-
6 tribute, each disk connected to at least one of the plurality of switches.
- 1 10. (ORIGINAL) The network storage system of claim 9, wherein the first ownership
2 attribute further comprises ownership information written on a predetermined area of the
3 disk.

- 1 11. (ORIGINAL) The network storage system of claim 9, wherein the second ownership
2 attribute further comprises a small computer system interface level 3 persistent reserva-
3 tion tag.

- 1 12. (ORIGINAL) The networked storage system of claim 11, wherein each disk that is
2 owned by the network device has the small computer system interface level 3 persistent
3 reservation set such that only the network device may write to the disk.

- 1 13. (ORIGINAL) The network storage system of claim 10, wherein the ownership in-
2 formation further comprises of a serial number of the network device that owns that par-
3 ticular disk.

- 1 14. (ORIGINAL) The network storage system of claim 10, wherein each of the plurality
2 of file servers can read data from each of the plurality of disks.

- 1 15. (ORIGINAL) The network storage system of claim 10, wherein only a network de-
2 vice that owns one of the plurality of disks can write data to the one disk.

- 1 16. (ORIGINAL) The network storage system of claim 9, wherein the network devices
2 comprise file servers.

- 1 17. (ORIGINAL) A network storage system comprising:
2 one or more switches;

3 a plurality of disks; and
4 a plurality of network devices, each of the network devices including means for
5 claiming ownership of one of the plurality of disks in the network storage system.

1 18. (ORIGINAL) The network storage system of claim 17, wherein the means for claim-
2 ing ownership further comprises:

3 means for writing ownership information to a predetermined area of a disk; and
4 means for setting a small computer system interface level 3 persistent reservation
5 on a disk.

1 19. (ORIGINAL) The network storage system of claim 17, wherein the network devices
2 comprise file servers.

1 20. (PREVIOUSLY PRESENTED) A network storage system comprising:
2 one or more switches interconnected to form a switching fabric;
3 a plurality of disks, each of the disks connected to at least one of the switches,
4 each disk storing a first ownership attribute and a second ownership attribute; and
5 one or more network devices, interconnected with the switching fabric, each of
6 the network devices being adapted to own a predetermined set of disks of the plurality of
7 disks through use of the first and second ownership attributes.

21. (CANCELLED)

- 1 22. (PREVIOUSLY PRESENTED) The network storage system of claim 20, wherein
- 2 the first ownership attribute is ownership information written to a predetermined area of
- 3 each of the disks.

- 1 23. (ORIGINAL) The network storage system of claim 22, wherein the ownership in-
- 2 formation further comprises a serial number of one of the one or more network devices.

- 1 24. (PREVIOUSLY PRESENTED) The network storage system of claim 20, wherein
- 2 the second ownership information is a small computer system interface level 3 persistent
- 3 reservation.

- 1 25. (ORIGINAL) The network storage system of claim 20, wherein each of the network
- 2 devices further comprises a disk ownership table, the disk ownership table containing
- 3 ownership data for each of the disks.

- 1 26. (ORIGINAL) The network storage system of claim 25, wherein the ownership table
- 2 further comprises a world wide name for each of the disks, the world wide name being
- 3 used for identification of each of the disks.

- 1 27. (ORIGINAL) A computer-readable medium, including program instructions execut-
- 2 ing on network device, for performing the steps of:
 - 3 writing ownership information to a predetermined area of a disk; and
 - 4 setting a small computer system interface level 3 persistent reservation tag to a
 - 5 state of network device ownership.

- 1 28. (NEW) A method for a network device to manage ownership of one or more storage
- 2 devices in a network storage system, comprising the steps of:
 - 3 reading ownership information from a predetermined area of each storage device;
 - 4 in response to reading the ownership information, creating an ownership table that
 - 5 identifies the one or more storage devices owned by the network device;
 - 6 reading a small computer system interface (SCSI) level 3 persistent reservation
 - 7 tag from each storage device;
 - 8 comparing the SCSI level 3 persistent reservation tag to the ownership informa-
 - 9 tion of the same storage device and, if there is not a match, changing the SCSI level 3
 - 10 persistent reservation tag to match the ownership information; and
 - 11 configuring the one or more storage devices identified in the ownership table into
 - 12 at least one volume for use by the network device.
- 1 29. (NEW) The method of claim 28 further comprising:
 - 2 setting ownership information at the predetermined area of each storage device:
- 1 30. (NEW) The method of claim 28 wherein the step of configuring further comprises:
 - 2 organizing the one or more storage devices into at least one Redundant Array of
 - 3 Independent Disks (RAID) group.
- 1 31. (NEW) The method of claim 28 further comprising:
 - 2 wherein the predetermined area of the one or more storage devices is sector zero
 - 3 of the one or more storage devices.

- 1 32. (NEW) The method of claim 28 further comprising:
 - 2 wherein the ownership information is a serial number of the network device that
 - 3 owns that particular storage device.

- 1 33. (NEW) The method of claim 28 further comprising:
 - 2 wherein the ownership table includes a world wide name for each of the storage
 - 3 devices, the world wide name being used to identify each of the storage devices.

- 1 34. (NEW) A network device for managing ownership of one or more storage devices in
2 a network storage system, comprising the steps of:
 - 3 means for reading ownership information from a predetermined area of each stor-
4 age device;
 - 5 in response to reading the ownership information, means for creating an owner-
6 ship table that identifies the one or more storage devices owned by the network device;
 - 7 means for reading a small computer system interface (SCSI) level 3 persistent res-
8 ervation tag from each storage device;
 - 9 means for comparing the SCSI level 3 persistent reservation tag to the ownership
10 information of the same storage device and, if there is not a match, changing the SCSI
11 level 3 persistent reservation tag to match the ownership information; and
 - 12 means for configuring the one or more storage devices identified in the ownership
13 table into at least one volume for use by the network device.

- 1 35. (NEW) A computer readable medium containing executable program instructions for
2 managing ownership of one or more storage devices in a network storage system, the ex-
3 ecutable program instructions comprising program instructions for:

4 reading ownership information from a predetermined area of each storage device;
5 in response to reading the ownership information, creating an ownership table that
6 identifies the one or more storage devices owned by the network device;
7 reading a small computer system interface (SCSI) level 3 persistent reservation
8 tag from each storage device;
9 comparing the SCSI level 3 persistent reservation tag to the ownership informa-
10 tion of the same storage device and, if there is not a match, changing the SCSI level 3
11 persistent reservation tag to match the ownership information; and
12 configuring the one or more storage devices identified in the ownership table into
13 at least one volume for use by the network device.

1 36. (NEW) A network storage system, comprising:
2 one or more storage devices, each storage device having a predetermined area for
3 storing ownership information and each storage device having a small computer system
4 interface (SCSI) level 3 persistent reservation tag;
5 at least one network device having an ownership table constructed based upon
6 the ownership information from each storage device;
7 the at least one network device having an ownership layer for comparing the SCSI
8 level 3 persistent reservation tag to the ownership information of the same storage device
9 and, if there is not a match, changing the SCSI level 3 persistent reservation tag to match
10 the ownership information; and
11 the at least one network device having a disk storage layer for configuring the one
12 or more storage devices identified in the ownership table into at least one volume for use
13 by the network device.

1 37. (NEW) The network storage system of claim 36 further comprising:

2 the ownership layer adapted to set ownership information at the predetermined
3 area of each storage device.

1 38. (NEW) The network storage system of claim 36 further comprising:
2 the disk storage layer organizing the one or more storage devices into at least one
3 Redundant Array of Independent Disks (RAID) group.

1 39. (NEW) The network storage system of claim 36 further comprising:
2 wherein the predetermined area of the one or more storage devices is sector zero
3 of the one or more storage devices.

1 40. (NEW) The network storage system of claim 36 further comprising:
2 wherein the ownership information is a serial number of the network device that
3 owns that particular storage device.

1 41. (NEW) The network storage system of claim 36 further comprising:
2 wherein the ownership table includes a world wide name for each of the storage
3 devices, the world wide name being used to identify each of the storage devices.